

What Is Claimed Is:

5.6 A1 >
1. An image reading device that irradiates an object with a light and reads a reflected light, comprising:

a single light source capable of irradiating a visible light and an invisible light;

a reading unit that reads the reflected light from the object irradiated with the light from the light source; and

a controller that selectively switches an emission mode of the light source, wherein the emission mode includes a first mode for reading that uses the visible light and a second mode for reading that uses the invisible light.

2. The image reading device according to Claim 1, wherein the invisible light is an infrared light, and the light source emits at least a light including the infrared light in the second mode.

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3. The image reading device according to Claim 2, wherein the infrared light has at least one emission peak, and the emission peak is within 800 nm to 1000 nm.

4. The image reading device according to Claim 1, wherein the light source is a fluorescent lamp, and the emission mode is switched by changing an internal discharge state of the fluorescent lamp.

5. The image reading device according to Claim 1, wherein the light source is a rare gas fluorescent lamp.

6. The image reading device according to Claim 5, wherein a xenon gas is sealed up in the rare gas fluorescent lamp.

7. The image reading device according to Claim 1, wherein the light source is a fluorescent lamp, and the fluorescent lamp comprises a sealed container inside which a phosphor brought into emission by a discharge is disposed, a pair of internal electrodes disposed inside the sealed container, and a pair of external electrodes disposed outside thereof.

8. The image reading device according to Claim 7, wherein the first mode generates a discharge between the external electrodes, and the second mode generates a discharge between the internal electrodes.

9. The image reading device according to Claim 1, wherein the emission mode is switched by adjusting a current supplied to the light source.

10. The image reading device according to Claim 1, further comprising an infrared cutoff filter, a visible light cutoff filter, and a filter switching part that selectively locates either the infrared cutoff filter or the visible light cutoff filter between the object and the reading unit, wherein the

filter switching part locates the infrared cutoff filter between the object and the reading unit in the first mode, and locates the visible light cutoff filter between the object and the reading unit in the second mode.

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11. The image reading device according to Claim 1, further comprising a processing unit that processes a read result of the reading unit, wherein

the reading unit outputs a first read result in the first mode, and outputs a second read result in the second mode, and

the processing unit calculates the first read result and the second read result in accordance with a predetermined calculation format, and thereby generates a first corrected read result relating to the visible light and a second corrected read result relating to the invisible light.

12. The image reading device according to Claim 1, further comprising a carriage that carries the reading unit in a first direction and a second direction in reverse to each other, wherein the light source emits in the first mode when the reading unit moves in the first direction, and the light source emits in the second mode when the reading unit moves in the second direction.

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13. An image reading method that irradiates an object with a light and reads a reflected light, comprising the steps of:

switching an emission mode of a single light source capable of irradiating a visible light and an invisible light in accordance with a reading mode selected from a visible image reading mode and an invisible image reading mode, and

reading the reflected light from the object irradiated with the light from the light source while bringing the light source into emission in accordance with the emission mode switched.

14. An image reading device that irradiates an object with a light and reads a reflected light, comprising:

a single light source capable of irradiating a visible light and an invisible light, being a fluorescent lamp that comprises a sealed container inside which a phosphor brought into emission by a discharge is disposed, a pair of internal electrodes disposed inside the sealed container, and a pair of external electrodes disposed outside thereof,

a reading unit that reads the reflected light from the object irradiated with the light from the light source, and

a feeder circuit that supplies the fluorescent lamp with power so as to generate a discharge between the external electrodes synchronously with a discharge between the internal electrodes.

15. A light source comprising a sealed container, a pair of internal electrodes disposed inside the sealed container, and

a pair of external electrodes disposed outside the sealed container.

16. The light source according to Claim 15, wherein a discharge between the internal electrodes is different from a discharge between the external electrodes in an emission mode.

17. The light source according to Claim 15, wherein a discharge between the internal electrodes is different from a discharge between the external electrodes in a wavelength distribution of lights.

18. The light source according to Claim 15, wherein an infrared light is generated more in a discharge between the internal electrodes than in a discharge between the external electrodes.